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## Some Iowa Waters

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# SOME IOWA WATERS.

BY NICHOLAS KNIGHT.

## 1. *The Springville Water Supply.*

The source of the supply is an artesian well one hundred and fifty feet in depth. The water is quite free from organic contamination, and quite soft for an Eastern Iowa water. The numbers express the different amounts in one million parts of the water.

Total Solids .....	240.0
CaCO <sub>3</sub> .....	101.4
MgCO <sub>3</sub> .....	93.6
CaSO <sub>4</sub> .....	20.4
Fe <sub>2</sub> O <sub>3</sub> and Al <sub>2</sub> O <sub>3</sub> .....	19.4
Si'O <sub>2</sub> .....	0.4
NaCl and KCl.....	4.8
CO <sub>2</sub> free and partly united.....	63.0
Free ammonia .....	0.05
Albuminoid ammonia .....	0.07
Nitrates .....	0.10

## 2. *The Spring at the Palisades.*

This is a well-known spring at the Palisades on the Cedar river. The figures express great freedom from organic contamination. The low temperature of the water indicates a deep-seated origin. The taste is agreeable and altogether the spring is a valuable one.

Total Solids .....	316.4
CaCO <sub>3</sub> .....	175.8
MgCO <sub>3</sub> .....	97.2
Fe <sub>2</sub> O <sub>3</sub> and Al <sub>2</sub> O <sub>3</sub> .....	6.8
Si'O <sub>2</sub> .....	9.8
NaCl and KCl.....	26.8
CO <sub>2</sub> .....	168.00
Free ammonia.....	0.012
Albuminoid ammonia .....	0.00
Nitrates .....	0.634

## 3. *The Lisbon Water Supply.*

The supply comes from two sources: A spring twenty-four feet in diameter and twenty-four feet in depth; and from a well one hundred and forty-four feet deep. The water is pumped from the well into the spring, and thence into a standpipe, from which the town is supplied. The first analysis is of the water direct from the main, which is, therefore, a mixture of the spring and well water.

The results are as follows:

Total Solids .....	266.00
CaCO <sub>3</sub> .....	119.6
MgCO <sub>3</sub> .....	108.1
CaSO <sub>4</sub> .....	36.4
Al <sub>2</sub> O <sub>3</sub> .....	4.06
NaCl and KCl.....	13.40
Si'O <sub>2</sub> .....	9.86
CO <sub>2</sub> .....	201.0
Free ammonia .....	0.056
Albuminoid ammonia .....	0.088
Nitrates .....	0.296

The water from the spring:

Total Solids .....	255.0
CaCO <sub>3</sub> .....	117.4
MgCO <sub>3</sub> .....	74.08
CaSO <sub>4</sub> .....	33.60
Al <sub>2</sub> O <sub>3</sub> .....	4.46
Si'O <sub>2</sub> .....	10.06
NaCl and KCl.....	14.40
CO <sub>2</sub> .....	172.0
Free ammonia .....	0.00
Albuminoid ammonia .....	0.032
Nitrates .....	0.06

The water from the well:

Total Solids .....	288.20
CaCO <sub>3</sub> .....	123.90
MgCO <sub>3</sub> .....	106.20
CaSO <sub>4</sub> .....	20.20
Al <sub>2</sub> O <sub>3</sub> .....	4.66
Si'O <sub>2</sub> .....	5.00
NaCl and KCl.....	28.20
CO <sub>2</sub> .....	388.70
Free ammonia .....	0.064
Albuminoid ammonia .....	0.088
Nitrates .....	0.296